INTERNATIONAL JOURNAL OF PHARMACEUTICS

VOL. 48 NOS. 1–3 CONTENTS DECEMBER 1988

Review Articles

Swelling controlled-release systems: recent developments and applications (IJP 01614)
K.V. Ranga Rao and K. Padmalatha Devi (India) 1

Systemic delivery of therapeutic peptides and proteins (IJP 01669)
A.K. Banga and Y.W. Chien (U.S.A) 15

Research Papers

Formulations releasing the drug proximal to the pylorus in the dog (IJP 01608)
J. Heinämäki, M. Marvola, I. Happonen and E. Westermarck (Finland) 51

Mechanical properties of pigmented tablet coating formulations and their resistance to cracking. I. Static mechanical measurement (IJP 01610)
S.H.M. Gibson, R.C. Rowe and E.F.T. White (U.K.) 63

Gastrointestinal transit of small tablets in patients with ulcerative colitis (IJP 01611)
J.G. Hardy, S.S. Davis, R. Khosla and C.S. Robertson (U.K.) 79

A study of the inclusion complex of naproxen with β-cyclodextrin (IJP 01612)
N. Erden and N. Çelebi (Turkey) 83

QSAR analysis of chemical and serum-catalyzed hydrolysis of phenyl ester prodrugs of nipecotic acid (IJP 01613)
C. Altomare, A. Carotti, S. Cellamare, M. Ferappi, R. Cagiano and G. Renna (Italy) 91

In vitro and in vivo enhancement of skin permeation with oleic and lauric acids (IJP 01616)
P.G. Green, R.H. Guy and J. Hadgraft (U.K., U.S.A.) 103

Quantitative assessment of additive–polymer interaction in pigmented hydroxypropyl methylcellulose formulations using immersion calorimetry (IJP 01617)
S.H.M. Gibson, R.C. Rowe and E.F.T. White (U.K.) 113

Stabilization of tinctures with cyclodextrins: a tincture from the fruits of *Oenanthe aquatica* L. (IJP 01618)
F.F. Vincieri, N. Mulinacci, G. Mazzi, S.A. Coran and M. Bambagiotti-Alberti (Italy) 119

Poloxamer sorption on liposomes: comparison with polystyrene latex and influence on solute efflux (IJP 01619)
M. Jamshaid, S.J. Farr, P. Kearney and I.W. Kellaway (U.K.) 125

Reduction of absorption of drugs into TPN plastic containers by phospholipids and fat emulsions (IJP 01620)
C. Washington and C.J. Briggs 133

Preclinical studies of iododeoxuridine in dimethyl sulfoxide for the topical treatment of cutaneous herpes simplex virus infections (IJP 01622)
D.J. Freeman, N.V. Sheth and S.L. Spruance (U.S.A.) 141

Improvement of lubrication capacity of sodium benzoate; effects of milling and spray drying (IJP 01624)
S.I. Saleh, P. Wehrlé and A. Stamm (Egypt, France) 149

(Contents continued on p. 270)

© 1988 Elsevier Science Publishers B.V. (Biomedical Division). All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher, Elsevier Science Publishers B.V. (Biomedical Division), P.O. Box 1527, 1000 BM Amsterdam, The Netherlands.

Submission of a paper to this journal entails the author's irrevocable and exclusive authorization of the publisher to collect any sums or considerations for copying or reproduction payable by third parties (as mentioned in article 17 paragraph 2 of the Dutch Copyright Act of 1912 and in the Royal Decree of June 20, 1974 (S. 351) pursuant to article 16b of the Dutch Copyright Act of 1912) and/or to act in or out of Court in connection therewith.

Special regulations for readers in the U.S.A. This journal has been registered with the copyright Clearance Center, Inc. Consent is given for copying of articles for personal or internal use, or for the personal use of specific clients. This consent is given on the condition that the copier pays through the Center the per-copy fee stated in the code on the first page of each article for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. The appropriate fee should be forwarded with a copy of the first page of the article to the Copyright Clearance Center, Inc., 27 Congress Street, Salem, MA 01970, U.S.A. If no code appears in an article, the author has not given broad consent to copy and permission to copy must be obtained directly from the author. All articles published prior to 1980 may be copied for a per-copy fee of US $2.25, also payable through the Center. This consent does not extend to other kinds of copying, such as for general distribution, resale, advertising and promotion purposes, or for creating new collective works. Special written permission must be obtained from the publisher for such copying.

Special regulations for authors. Upon acceptance of an article by the journal, the author(s) will be asked to transfer copyright of the article to the publisher. This transfer will ensure the widest possible dissemination of information.

Cited in: Current Contents (Life Sciences; Clinical Practice); International Pharmaceutical Abstracts; Biological Abstracts; Chemical Abstracts; Excerpta Medica EMBASE; Index Medicus

Printed in The Netherlands

INTERNATIONAL JOURNAL OF PHARMACEUTICS

VOL. 48 NOS. 1–3 CONTENTS DECEMBER 1988

Review Articles

Swelling controlled-release systems: recent developments and applications (IJP 01614)
K.V. Ranga Rao and K. Padmalatha Devi (India) 1

Systemic delivery of therapeutic peptides and proteins (IJP 01669)
A.K. Banga and Y.W. Chien (U.S.A) 15

Research Papers

Formulations releasing the drug proximal to the pylorus in the dog (IJP 01608)
J. Heinämäki, M. Marvola, I. Happonen and E. Westermarck (Finland) 51

Mechanical properties of pigmented tablet coating formulations and their resistance to cracking. I. Static mechanical measurement (IJP 01610)
S.H.M. Gibson, R.C. Rowe and E.F.T. White (U.K.) 63

Gastrointestinal transit of small tablets in patients with ulcerative colitis (IJP 01611)
J.G. Hardy, S.S. Davis, R. Khosla and C.S. Robertson (U.K.) 79

A study of the inclusion complex of naproxen with β-cyclodextrin (IJP 01612)
N. Erden and N. Çelebi (Turkey) 83

QSAR analysis of chemical and serum-catalyzed hydrolysis of phenyl ester prodrugs of nipecotic acid (IJP 01613)
C. Altomare, A. Carotti, S. Cellamare, M. Ferappi, R. Cagiano and G. Renna (Italy) 91

In vitro and in vivo enhancement of skin permeation with oleic and lauric acids (IJP 01616)
P.G. Green, R.H. Guy and J. Hadgraft (U.K., U.S.A.) 103

Quantitative assessment of additive–polymer interaction in pigmented hydroxypropyl methylcellulose formulations using immersion calorimetry (IJP 01617)
S.H.M. Gibson, R.C. Rowe and E.F.T. White (U.K.) 113

Stabilization of tinctures with cyclodextrins: a tincture from the fruits of *Oenanthe aquatica* L. (IJP 01618)
F.F. Vincieri, N. Mulinacci, G. Mazzi, S.A. Coran and M. Bambagiotti-Alberti (Italy) 119

Poloxamer sorption on liposomes: comparison with polystyrene latex and influence on solute efflux (IJP 01619)
M. Jamshaid, S.J. Farr, P. Kearney and I.W. Kellaway (U.K.) 125

Reduction of absorption of drugs into TPN plastic containers by phospholipids and fat emulsions (IJP 01620)
C. Washington and C.J. Briggs 133

Preclinical studies of iododeoxuridine in dimethyl sulfoxide for the topical treatment of cutaneous herpes simplex virus infections (IJP 01622)
D.J. Freeman, N.V. Sheth and S.L. Spruance (U.S.A.) 141

Improvement of lubrication capacity of sodium benzoate; effects of milling and spray drying (IJP 01624)
S.I. Saleh, P. Wehrlé and A. Stamm (Egypt, France) 149

(Contents continued on p. 270)

© 1988 Elsevier Science Publishers B.V. (Biomedical Division). All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the publisher, Elsevier Science Publishers B.V. (Biomedical Division), P.O. Box 1527, 1000 BM Amsterdam, The Netherlands.

Submission of a paper to this journal entails the author's irrevocable and exclusive authorization of the publisher to collect any sums or considerations for copying or reproduction payable by third parties (as mentioned in article 17 paragraph 2 of the Dutch Copyright Act of 1912 and in the Royal Decree of June 20, 1974 (S. 351) pursuant to article 16b of the Dutch Copyright Act of 1912) and/or to act in or out of Court in connection therewith.

Special regulations for readers in the U.S.A. This journal has been registered with the copyright Clearance Center, Inc. Consent is given for copying of articles for personal or internal use, or for the personal use of specific clients. This consent is given on the condition that the copier pays through the Center the per-copy fee stated in the code on the first page of each article for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. The appropriate fee should be forwarded with a copy of the first page of the article to the Copyright Clearance Center, Inc., 27 Congress Street, Salem, MA 01970, U.S.A. If no code appears in an article, the author has not given broad consent to copy and permission to copy must be obtained directly from the author. All articles published prior to 1980 may be copied for a per-copy fee of US $2.25, also payable through the Center. This consent does not extend to other kinds of copying, such as for general distribution, resale, advertising and promotion purposes, or for creating new collective works. Special written permission must be obtained from the publisher for such copying.

Special regulations for authors. Upon acceptance of an article by the journal, the author(s) will be asked to transfer copyright of the article to the publisher. This transfer will ensure the widest possible dissemination of information.

Cited in: Current Contents (Life Sciences; Clinical Practice); International Pharmaceutical Abstracts; Biological Abstracts; Chemical Abstracts; Excerpta Medica EMBASE; Index Medicus

Printed in The Netherlands

(Contents continued from back cover)

Drug-delivery by ion-exchange. Stability of ester pro-drugs of propranolol in surfactant and enzymatic systems (IJP 01625)
W.J. Irwin and K.A. Belaid (U.K.) 159
Polarographic analysis of taurolidine, a non-antibiotic antimicrobial agent (IJP 01626)
A.D. Woolfson, D.F. McCafferty, S.P. Gorman and D.S. Jones (U.K.) 167
Relationship between porosity and water content of dicalcium phosphate tablets (IJP 01628)
N.A. Armstrong, A.N. Patel and T.M. Jones (U.K.) 173
Degradation of the antineoplastic drug, clomesone (2-chloroethyl(methylsulfonyl)methanesulfonate, NSC-338947). A kinetic and mechanistic study (IJP 01630)
P.E. Kennedy, C.M. Riley and W.J. Stella (U.S.A.) 179
Buccal drug absorption. I. Comparative levels of esterase and peptidase activities in rat and hamster buccal and intestinal homogenates (IJP 01631)
K.W. Garren and A.J. Repta (U.S.A.) 189
The effect of structure of Mannich base prodrugs of 6-mercaptopurine on their ability to deliver 6-mercaptopurine through hairless mouse skin (IJP 01632)
K.G. Siver and K.B. Sloan (U.S.A.) 195
Comparison of polyethylene glycol, polyvinylpyrrolidone and urea as excipients for solid dispersion systems of miconazole nitrate (IJP 01633)
M.R. Jafari, A.G. Danti and I. Ahmed (U.S.A.) 207
Effect of eluant properties on drug release from cellulose acetate butyrate-coated drug resin complexes (IJP 01634)
O.L. Sprockel and W. Prapaitrakul (U.S.A.) 217
Disposition of vitamin K_1 after intravenous and oral administration to subjects on phenprocoumon therapy (IJP 01635)
S. Øie, D. Trenk, T.W. Guentert, H. Mosberg and E. Jähnchen (U.S.A., F.R.G., Switzerland) 223
Simulation of gastrointestinal drug absorption I. Longitudinal transport in the small intestine (IJP 01636)
S.J. Firmer and D.J. Cutler (Australia) 231
Development and evaluation using hairless mouse skin of a transdermal timolol product (IJP 01638)
C.T. O'Neill and P.B. Deasy (Ireland) 247
Particulate contamination in parenteral type medical devices (IJP 01639)
F. Pavanetto, B. Conti, T. Modena, I. Genta and R. Ponci (Italy) 255

Author Index 266

Noticeboard 269